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EXAMINER	
HALL, COREY JOHN	

ART UNIT	PAPER NUMBER
3743	

NOTIFICATION DATE	DELIVERY MODE
09/14/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/568,382	PAHLSSON ET AL.	
	Examiner	Art Unit	
	COREY HALL	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 February 2010* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/24/2010 have been fully considered but they are not persuasive. On page 9, line 20-page 10, line 9 Applicant argues that the term "essentially tight" is not indefinite because the specification states that "fits tightly against" relates to a reasonable degree of sealing that prevents a considerable flow of water vapour from passing. This is not persuasive. The specification defines the indefinite term of "essentially tight" with the equally indefinite terminology of "a reasonable degree" and "considerable flow". One of ordinary skill in the art would not be reasonably apprised of the scope of the invention because the specification provides no indication as to what constitutes a considerable flow of water vapour passing the stack. Furthermore, what constitutes a reasonable degree of sealing to prevent a considerable flow would be expected to vary widely depending on the types of products being processed. For example, what might constitute an unreasonable amount of over-drying for a moist cake for human consumption might be a reasonable amount of over-drying for a dry dog food. Additionally, because the limitation of foodstuffs is only in the preamble, the claims could be expected to apply to a wide variety of materials being processed, from highly sensitive computer components to non-sensitive pieces of wood. Therefore, the specification does not provide a standard for ascertaining the requisite degree to overcome the rejection of the term "essentially tight" as being indefinite.

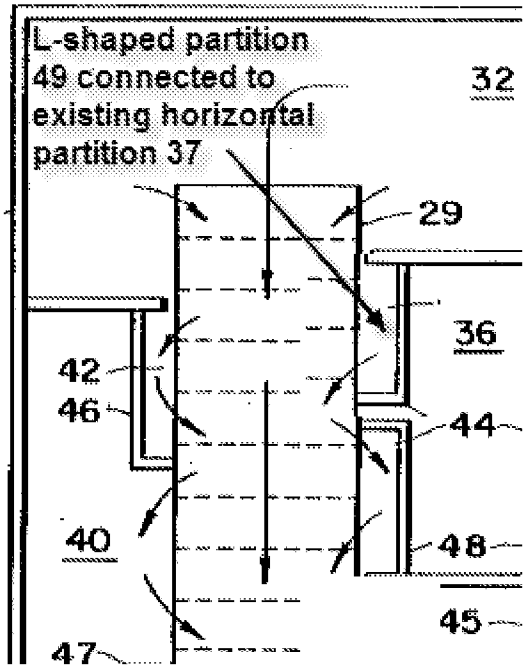
2. On page 11, line 3-page 12, line 2 Applicant argues first, that nowhere does Crump describe or suggest that that an L-shaped partition can be attached to partition 37 to arrive at the encapsulation. Second, that even if Crump permitted an L-shaped partition to be connected to

horizontal partition 37, such L-shaped partition would not necessarily overlap to any substantial extent L-shaped partition 46. Third, that in the alternative if a hypothetical L-shaped partition were connected to horizontal partition 37 and were to extend downward any appreciable distance, then the resulting structure would negate chamber 36 and increase the complexity of the device. Finally, that any additional L-shaped partition connecting to horizontal partition 37 could not overlap the vertical distance of L-shaped partition 46 because to do so would restrict personnel access to the portion of the stack. The Applicant's arguments regarding the position of an L-shaped partition on the horizontal partition 37 are not persuasive. First, as stated in the office action, Crump specifically states at column 9, lines 9-19 that L-shaped partitions can be connected to the "existing horizontal partitions" to create additional chambers. Partition 37 is clearly an existing horizontal partition that could have an L-shaped partition attached to it to create an additional chamber. Second, with an L-shaped partition connected to horizontal partition 37 as shown in Figure C below, the inner L-shaped partition would substantially overlap with the outer L-shaped partition 46. This is particularly the case now, where Kuenen teaches a first end closure from which inner and outer circumferential walls co-extend. Third, even with an L-shaped partition connected to horizontal partition 37 the chamber 36 would still substantially exist as shown in Figure C below without an increase in the complexity of the device. Finally, as stated at column 9, lines 9-19, the use of L-shaped partitions is specifically to "preserve large spaces inside the device for personnel access to clean or otherwise maintain the device." It is not clear in what way the Applicant is asserting that the use of an L-shaped partition on horizontal partition 37 would result in inadequate access to the conveyor for personnel and such an assertion appears to be directly contradicted by Crump which specifically

states that the L-shaped partitions do provide access. Therefore, the use of an L-shaped partition on horizontal partition 37 does not create the problems or have the shortcomings that the Applicant asserts and the claims remain unpatentable over the prior art.

3. Applicant's arguments with respect to claims 1, 18, and 24 have been considered but are moot in view of the new ground(s) of rejection.

Figure C.



Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-5 and 7-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The term "essentially tight" in claims 1, 18, and 24 is a relative term which renders the claim indefinite. The term "essentially tight" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The size of the encapsulation relative to the stack is also rendered indefinite because of the relative term "essentially tight".

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-2, 5, 7-13, 15, 18-19, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crump et al. (US Patent No. 5,515,775 cited in prior notice of references cited mailed 3/4/2009) in view of Kuenen (US Pub. No. 2002/0139789 A1).

9. Regarding claims 1-2, 5, 7-13, 15, 18-19, 22, and 24, Crump et al. discloses an apparatus for treatment of foodstuffs (fig. 9, "food" col. 1, lines 8-10 and col. 2, line 31, col. 5, line 6) for processing and subsequent drying ("reorder or dry" col. 1, lines 8-30 and "treatment gas . . . steam" col. 9, lines 30-49), comprising an endless conveyor belt (19, fig. 2, "endless conveyor belt 19" col. 5, line 46) which along part of its length follows a helical path to form a stack (20, fig. 2, "conveyor stack 20" col. 5, line 50), said helical path defining a central space (36, 38, fig. 9) in the stack, the conveyor belt having passages for letting a flow of a gaseous medium in the vertical as well as horizontal direction through the stack (fig. 5 showing with arrows both vertical and horizontal flow, col. 1, line 65-col. 2, line 11 describing vertical as well as horizontal flow, col. 4, lines 8-33, and col. 6, lines 40-56), . . . , a first supply (51, fig. 9) of a first gaseous medium (col. 9, lines 21-50 describing gas being fed through first supply 51 including air of

specific relative humidity and steam) to said central space (38, fig. 9), and a second supply (fig. 9 showing a second supply of a second gaseous medium from circulating 34 and conditioning 35 means) of a second gaseous medium (col. 7, lines 32-39 describing circulating and conditioning and col. 10, lines 7-19 describing thermally conditioning the gas to alter temperature or relative humidity) to said encapsulation (fig. 9 showing the second gaseous medium flowing into the upper part of the stack and where said encapsulation is taught below from another embodiment of the same reference), . . . , in which the first gaseous medium is humid water vapor (col. 9, lines 20-50 describing a humid treatment gas flow including steam being supplied by pipe 51, col. 10, lines 4-19 describing controlling the humidity of the gas and col. 10, lines 45-55 describing greater control and where the "humid water vapor" is not clearly defined), . . . , in which a second end closure (37, figs. 7 and 9) is arranged over the central space (36, 38, fig. 9), in which lateral pieces (25, figs. 2-3 showing the stack having a longitudinal edge forming an outer wall of the stack 20 which is almost identical to Applicant's Figure 1 at 7b) at a longitudinal edge of the conveyor belt (19, fig. 2) form an outer wall of the stack (20, fig. 2), which defines the stack outwards in the radial direction (fig. 2), in which lateral pieces (25, figs. 2-3 showing a stack having a longitudinal edge forming an inner wall of the stack 20 which is almost identical to Applicant's Figure 1 at 7a) at a longitudinal edge of the conveyor belt (19, fig. 2) form an inner wall of the stack (20, fig. 2) which defines the stack inwards in the radial direction to define said central space (fig. 2 showing an inner wall of the stack defining the central space and 36, 38, fig. 9), in which a third end closure (39, figs. 7-9 showing the third end closure 39 being at the bottom of the stack, col. 8, lines 54-56 describing an additional partition 39 to create the bottom central space chamber 38) is arranged against the lowermost turn (figs. 7-

9 showing the third end closure 39 at different heights including against the lowermost turn, col. 4, lines 59-64 describing the chambers formed by partitions being at different heights in the conveyor stack) formed in the stack, said third end closure (39, figs. 7-9) being arranged transversely of the central space (36, 38, figs. 7-9) defined by the conveyor belt (figs. 7-9), in which the source of supply (51, fig. 9) of humid water vapor (col. 9, lines 20-50 describing a humid treatment gas flow including steam being supplied by pipe 51) comprises a fan (23, fig. 1, "fans 23 used as a means for circulating treatment gas" col. 6, lines 7-8), in which the conveying direction of the conveyor belt (19, fig. 1 showing the conveyor belt 19 entering at an inlet 17 and moving in an upward direction toward the encapsulation to an outlet 18 which is similar to Applicant's Figure 2) is arranged towards the encapsulation, in which the stack (20, fig. 1) is arranged in a housing (16, figs. 1 and 4-5, col. 6, lines 40-44 describing a housing having a top and side walls) comprising an inlet (17, fig. 1) and an outlet (18, fig. 1) for the conveyor belt (19, fig. 1), . . . , a method for treating foodstuffs ("reorder or dry . . . or treat other particulate solid materials, e.g., food" col. 1, lines 8-10 and "processing of . . . food" col. 5, lines 1-7) for the purpose of processing and drying, comprising: (a) providing an endless conveyor belt (19, fig. 2, col. 5, line 46) which along part of its length follows a helical path to form a stack (20, fig. 2, col. 5, line 50), said conveyor belt having passages for letting a flow of a gaseous medium through the stack in the vertical as well as the horizontal directions (fig. 5 showing with arrows both vertical and horizontal flow, col. 1, line 65-col. 2, line 11 describing vertical as well as horizontal flow, col. 4, lines 8-33, and col. 6, lines 40-56), wherein: (i) the stack defining a central space (36, 38, fig. 9), and (ii) the stack comprising a non-encapsulated stack portion (38, fig. 9) and, adjacent thereto (fig. 9 at 36), . . . , (c) supplying a flow of a first gaseous medium

(fig. 9 at 51, col. 9, lines 21-50 describing gas being fed through first supply 51 including air of specific relative humidity and steam) to said central space (38, fig. 9) for further conveyance to the non-encapsulated stack portion (fig. 9 at 38) through said passages for letting through a flow of a first gaseous medium in the horizontal direction (col. 9, lines 20-36 describing the first gaseous medium from 51 effecting the treatment in the conveyor stack in the tiers adjacent to chamber 38 and downstream of that chamber), (d) supplying a flow of a second gaseous medium (fig. 9 showing a second gaseous medium from circulating 34 and conditioning 35 means, col. 7, lines 32-39) to said upper encapsulated stack portion (fig. 9 showing the second gaseous medium being supplied to the upper stack portion), . . . , and (f) the flow of the second gaseous medium (fig. 9 showing a second gaseous medium from 34 and 35), which enters the encapsulated stack portion (fig. 9 showing gas supplied to upper stack portion) and flows essentially vertically (fig. 9 showing that the second gaseous medium flows essentially vertically, "this invention utilizes downward vertical flow" col. 7, lines 40-41), affecting the flow of the first gaseous medium (fig. 9 at 51, col. 9, lines 21-37 describing the first gaseous medium from 51 effecting the treatment in the conveyor stack in the tiers adjacent to chamber 38 and downstream of that chamber) which is conveyed to the non-encapsulated stack portion (fig. 9 at 38) so that the first gaseous medium is prevented from flowing towards the encapsulated stack portion (col. 9, lines 21-37 describing the flow of the first gaseous medium as adjacent and downstream indicating that the first gaseous medium is prevented from flowing upward), in which the first gaseous medium is humid water vapor (col. 9, lines 21-50 describing a humid treatment gas flow including steam being supplied by pipe 51, col. 10, lines 4-19, and col. 10, lines 45-55 and where "humid water vapor" is not clearly defined), comprising the step of arranging the conveyor belt (19, fig. 1) in a conveying

direction towards the encapsulated stack portion (fig. 1 showing the conveyor moving in an upward direction), and an apparatus for treatment of foodstuffs (fig. 9, "food" col. 1, lines 8-10 and col. 2, line 31, col. 5, line 6) for processing and subsequent drying ("reorder or dry" col. 1, lines 8-30 and "treatment gas . . . steam" col. 9, lines 30-49), comprising (a) an endless conveyor belt (19, fig. 2, "endless conveyor belt 19" col. 5, line 46) which along part of its length follows a helical path to form a stack (20, fig. 2, "conveyor stack 20" col. 5, line 50), said helical path defining a central space (36, 38, fig. 9) in the stack, (b) the conveyor belt having passages for letting a flow of a gaseous medium in the vertical as well as horizontal direction through the stack (fig. 5 showing with arrows both vertical and horizontal flow, col. 1, line 65-col. 2, line 11 describing vertical as well as horizontal flow, col. 4, lines 8-33, and col. 6, lines 40-56), . . . , (d) a first supply (51, fig. 9) of a first gaseous medium (col. 9, lines 21-50 describing gas being fed through first supply 51 including air of specific relative humidity and steam) to said central space (38, fig. 9), and (e) a second supply (fig. 9 showing a second supply of a second gaseous medium from circulating 34 and conditioning 35 means) of a second gaseous medium (col. 7, lines 32-39 describing circulating and conditioning and col. 10, lines 7-19 describing thermally conditioning the gas to alter temperature or relative humidity) to said encasement (fig. 9 showing the second gaseous medium flowing into the upper part of the stack and where said encasement is taught below from another embodiment of the same reference), . . . , except for an end portion of the stack, in which said stack is vertically surrounded by an encapsulation that is essentially tight in the horizontal direction, the encapsulation being formed by the co-extension of an outer circumferential wall and an inner circumferential wall vertically surrounding the end portion of the stack, the encapsulation extending along substantially the vertical distance of one of the outer

circumferential wall and inner circumferential wall, a first end closure arranged to cover the conveyor belt in its helical path, wherein said first end closure fits tightly against the outer and inner circumferential walls of the encapsulation, said encapsulation being arranged to direct the flow of the second gaseous medium in such a manner that it is passed in the vertical direction from said encapsulation to the rest of the stack, in which said encapsulation is arranged at the upper part of the stack, in which said outer and inner circumferential walls have the same height, an encapsulated stack portion being encapsulated in the vertical direction by an encapsulation that is essentially tight in the horizontal direction, the encapsulation being formed by the co-extension of an outer circumferential wall and an inner circumferential wall vertically surrounding the encapsulated stack portion, the encapsulation extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall, (b) providing a first end closure arranged to cover the conveyor belt in its helical path, wherein said first end closure fits tightly against the outer and inner circumferential walls of the encapsulation, (e) wherein said encapsulation directing the flow of the second gaseous medium in such a manner that it flows in an essentially vertical direction from said encapsulated stack portion to said non-encapsulated stack portion, (c) an end portion of the stack being surrounded by an encasement being essentially tight in the horizontal direction, said encasement comprising: (i) an outer circumferential wall with first and second end edges, wherein the first end edge is essentially tight in the horizontal direction against the stack, (ii) an inner circumferential wall with first and second end edges, wherein the first end edge is essentially tight in the horizontal direction against the stack, and (iii) an end closure disposed beyond the portion of the stack defined by the helical path of the conveyor belt, wherein the end closure fits tightly against the

second end edges of the outer and inner circumferential walls, and said encasement being arranged to direct the flow of the second gaseous medium in such a manner that it is passed in the vertical direction from said encasement to the rest of the stack. However, Crump et al. teaches in another embodiment an end portion of the stack (fig. 8 at 29), in which said stack is vertically surrounded by an encapsulation (fig. 8 and Figure A below showing that with L-shaped partitions 46, 49 attached at horizontal partitions 22 and 37 an encapsulation having an inner 45 and outer 42 chambers is provided) that is essentially tight (where "essentially tight" does not clearly define the encapsulation) in the horizontal direction (fig. 8 and Figure A below showing that L-shaped partitions 46 and 49 are essentially tight to the stack), the encapsulation (fig. 8 and Figure A below) being formed by the co-extension (where after the modification both the inner and outer circumferential walls would co-extend downward) of an outer circumferential wall (46, fig. 8 and Figure A below, col. 9, lines 9-19 describing L-shaped partitions being attached to the existing horizontal partitions which would include partition 22 to create additional chambers) and an inner circumferential wall (49, fig. 8 and Figure A below showing locations on the existing horizontal partition 37 where L-shaped partition 49 can be attached, col. 9, lines 9-19 describing L-shaped partitions being attached to the existing horizontal partitions which would include partition 37) vertically surrounding the end portion of the stack (fig. 8 at 29), the encapsulation (fig. 8 and Figure A below) extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall (fig. 8 and Figure A below showing partitions 46 and 49 being the same size and where they are attached to horizontal partitions 22 and 37, col. 9, lines 9-19 and col. 12, lines 25-57 describing at least one inner and outer L-shaped partition and where the claim language is interpreted to mean that the

encapsulation formed by an outer and inner wall provides an encapsulation having the vertical length of its inner or outer walls), said encapsulation being arranged to direct the flow of the second gaseous medium (fig. 8 showing a vertical flow) in such a manner that it is passed in the vertical direction ("invention utilizes downward vertical flow" col. 7, lines 40-41) from said encapsulation (fig. 8 and Figure A below) to the rest of the stack, in which said encapsulation (fig. 8 and Figure A below) is arranged at the upper part of the stack, in which said outer (46, fig. 8 and Figure A below) and inner (49, fig. 8 and Figure A below) circumferential walls have the same height (fig. 8 showing the outer and inner walls having the same height), an encapsulated stack portion (fig. 8 and Figure A below) being encapsulated in the vertical direction by an encapsulation (fig. 8 and Figure A below showing the L-shaped partitions 46 and 49 being tight to the stack) that is essentially tight in the horizontal direction, the encapsulation being formed by the co-extension (where after the modification both the inner and outer circumferential walls would co-extend downward) of an outer circumferential wall (46, fig. 8 and Figure A below, col. 9, lines 9-19 describing L-shaped walls being attached to the partitions which would include partition 22 to create additional chambers) and an inner circumferential wall (49, fig. 8 and Figure A below showing locations on the existing partition 37 where L-shaped wall 49 can be attached, col. 9, lines 9-19 describing L-shaped walls being attached to the existing partitions which would include partition 37) vertically surrounding the encapsulated stack portion (fig. 8 at 29), the encapsulation (fig. 8 and Figure A below) extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall (fig. 8 and Figure A below showing the L-shaped partitions 46 and 49 being the same length), (e) wherein said encapsulation (fig. 8 and Figure A below) directing the flow of the second gaseous medium in

such a manner that it flows in an essentially vertical direction (fig. 8 showing the flow of the second gaseous medium in an essentially vertical direction) from said encapsulated stack portion (fig. 8 at 29 and fig. 9 at 36) to said non-encapsulated stack portion (fig. 9 at 38), (c) an end portion of the stack (fig. 8 at 29) being surrounded by an encasement (fig. 8 and Figure A below showing L-shaped partitions 46 and 49 that would provide an encasement) being essentially tight (where "essentially tight" does not clearly define the encapsulation) in the horizontal direction, said encasement comprising: (i) an outer circumferential wall (46, fig. 8 and Figure A below, col. 9, lines 9-19 describing L-shaped walls being attached to the existing partitions which would include partition 22 to create additional chambers) with first and second end edges (fig. 8 and Figure A below showing L-shaped partition 46 having a first end at the bottom and an upper end attached to partition 22), wherein the first end edge is essentially tight in the horizontal direction against the stack (fig. 8 and Figure A below showing the first end edge being against the stack), (ii) an inner circumferential wall (49, fig. 8 and Figure A below showing locations on the existing partition 37 where L-shaped wall 49 can be attached, col. 9, lines 9-19 describing L-shaped walls being attached to the existing partitions which would include partition 37) with first and second end edges (fig. 8 and Figure A below showing L-shaped partition 49 having a first end at the bottom and an upper end that would attach to partition 37), wherein the first end edge is essentially tight in the horizontal direction against the stack (fig. 8 and Figure A below showing the first end edge being against the stack), and said encasement (fig. 8 and Figure A below showing a vertical downward flow) being arranged to direct the flow of the second gaseous medium in such a manner that it is passed in the vertical direction ("invention utilizes downward vertical flow" col. 7, lines 40-41) from said encasement to the rest of the stack in

order to preserve large spaces inside the device while providing advantages for certain applications (col. 9, lines 9-19), to obstruct the flow of gas from the perforated walls from going down the inside and outside of the spiral conveyor belt (col. 12, lines 3-57) and thus helping the apparatus to further reduce the problem of bypass flow (col. 3, lines 8-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Crump et al. reference, to include an end portion of the stack, in which said stack is vertically surrounded by an encapsulation that is essentially tight in the horizontal direction, the encapsulation being formed by the co-extension of an outer circumferential wall and an inner circumferential wall vertically surrounding the end portion of the stack, the encapsulation extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall, said encapsulation being arranged to direct the flow of the second gaseous medium in such a manner that it is passed in the vertical direction from said encapsulation to the rest of the stack, in which said encapsulation is arranged at the upper part of the stack, in which said outer and inner circumferential walls have the same height, an encapsulated stack portion being encapsulated in the vertical direction by an encapsulation that is essentially tight in the horizontal direction, the encapsulation being formed by the co-extension of an outer circumferential wall and an inner circumferential wall vertically surrounding the encapsulated stack portion, the encapsulation extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall, (e) wherein said encapsulation directing the flow of the second gaseous medium in such a manner that it flows in an essentially vertical direction from said encapsulated stack portion to said non-encapsulated stack portion, (c) an end portion of the stack being surrounded by an encasement being

essentially tight in the horizontal direction, said encasement comprising: (i) an outer circumferential wall with first and second end edges, wherein the first end edge is essentially tight in the horizontal direction against the stack, (ii) an inner circumferential wall with first and second end edges, wherein the first end edge is essentially tight in the horizontal direction against the stack, and said encasement being arranged to direct the flow of the second gaseous medium in such a manner that it is passed in the vertical direction from said encasement to the rest of the stack, as suggested and taught by Crump et al., for the purpose of preserving large spaces inside the device while providing advantages for certain applications, obstructing the flow of gas from the perforated walls from going down the inside and outside of the spiral conveyor belt and thus helping the apparatus to further reduce the problem of bypass flow. The Applicant is combining prior art elements according to known methods to yield predictable results. The Applicant is combining the prior art elements of the apparatus for treatment of foodstuffs for processing and drying comprising a conveyor belt having a first supply of a first gaseous medium to a central space and a second supply of a second gaseous medium to the top of the conveyor belt to flow vertically downward as disclosed by one embodiment of Crump et al. with the prior art elements of the apparatus for treatment of foodstuffs for processing and drying comprising a conveyor belt having an end portion vertically surrounded by an encapsulation formed by an outer circumferential wall and an inner circumferential wall to provide an encapsulation extending vertically the distance of the inner and outer walls and a second supply of a second gaseous medium to the top of the conveyor belt as taught by another embodiment of Crump et al. according to known methods to yield the predictable results of an apparatus for treatment of foodstuffs for processing and drying comprising a conveyor belt having an end

portion vertically surrounded by an encapsulation formed by an outer circumferential wall and inner circumferential wall to provide an encapsulation extending vertically the distance of the inner and outer walls and a first supply of a first gaseous medium to a central space and a second supply of a second gaseous medium to the top of the conveyor belt to flow vertically downward. One would be motivated to combine the two embodiments of Crump et al. because Crump et al. teaches using L-shaped partitions to help guide the vertical flow of a second gaseous medium and to reduce bypass flow as taught by the embodiment of figure 8 and the embodiment of figure 9 could be similarly improved as recognized in column 12, lines 3-57 which describes at least one inner and outer L-shaped partition combined with at least one pipe for providing a first gaseous medium into the central space, thus providing different gases to different parts of the conveyor stack as Crump et al. states is required for certain processes while reducing bypass flow at the upper portion of the conveyor stack where bypass flow can damage material being treated (col. 3, lines 8-33).

Kuenen teaches a first end closure (21, fig. 3, "a plate 21 which bears a series of jet nozzles 22" para. 26, lines 6-7) arranged to cover a conveyor belt (7, fig. 3, "conveyor belt 7" para. 24, lines 5-6) in its helical path (fig. 3 showing a helical path), wherein said first end closure (21, fig. 3) fits tightly against outer (fig. 3 and Figure B below) and inner (fig. 3 and Figure B below) circumferential walls of an encapsulation (fig. 3 and Figure B below), (b) providing a first end closure (21, fig. 3, "a plate 21 which bears a series of jet nozzles 22" para. 26, lines 6-7) arranged to cover a conveyor belt (7, fig. 3) in its helical path (fig. 3), wherein said first end closure (21, fig. 3) fits tightly against outer (fig. 3 and Figure B below) and inner (fig. 3 and Figure B below) circumferential walls of an encapsulation (fig. 3 and Figure B below), and

(iii) an end closure (21, fig. 3, "a plate 21 which bears a series of jet nozzles 22" para. 26, lines 6-7) disposed beyond a portion of a stack defined by a helical path of a conveyor belt (7, fig. 3 showing the end closure 21 being disposed beyond the top of the helical conveyor belt 7), wherein the end closure (21, fig. 3) fits tightly against second end edges of outer (fig. 3 and Figure B below) and inner (fig. 3 and Figure B below) circumferential walls in order to expose food products to hot air jets so that browning and, if appropriate, formation of a crispy crust is ensured at a specific zone of a helical conveyor while different heating conditions are maintained in the remaining zones of the helical conveyor (para. 27, line 1-para. 28, line 4) where browning and crisping are known to be desired but difficult to ensure in conventional helical conveyors (para. 4, line 1-para. 5, line 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Crump et al. reference, to include a first end closure arranged to cover the conveyor belt in its helical path, wherein said first end closure fits tightly against the outer and inner circumferential walls of the encapsulation, (b) providing a first end closure arranged to cover the conveyor belt in its helical path, wherein said first end closure fits tightly against the outer and inner circumferential walls of the encapsulation, and (iii) an end closure disposed beyond the portion of the stack defined by the helical path of the conveyor belt, wherein the end closure fits tightly against the second end edges of the outer and inner circumferential walls, as suggested and taught by Kuenen, for the purpose of exposing food products to hot air jets so that browning and, if appropriate, formation of a crispy crust is ensured at a specific zone of a helical conveyor while different heating conditions are maintained in the remaining zones of the helical conveyor where browning and crisping are known to be desired but difficult to ensure in conventional helical conveyors. The Applicant is combining

prior art elements according to known methods to yield predictable results. The Applicant is combining the prior art elements of the helical food processing conveyor belt having inner and outer circumferential walls as disclosed by Crump et al. with the prior art elements of the helical food processing conveyor belt having inner and outer circumferential walls to which a first end closure fits tightly against to cover the helical conveyor belt as taught by Kuenen according to known methods to yield the predictable results of a helical food processing conveyor belt having inner and outer circumferential walls to which a first end closure fits tightly against to cover the helical conveyor belt. One would be motivated to combine Crump et al. with Kuenen because Kuenen teaches that a first end closure can provide hot air jets so that browning or crisping of food can be ensured at a specific zone of a helical conveyor while different heating conditions are maintained in the remaining zones where browning and crisping are known to be desired but difficult to ensure in conventional helical conveyors and the helical conveyor for food processing of Crump et al. could be similarly improved by having a first end closure to provide hot air jets, thus better ensuring that desirable browning or crisping is achieved for a higher value food product while allowing the remaining zones of the helical conveyor to maintain different heating conditions so that the one helical conveyor has greater functionality by performing multiple food processing steps.

Figure A.

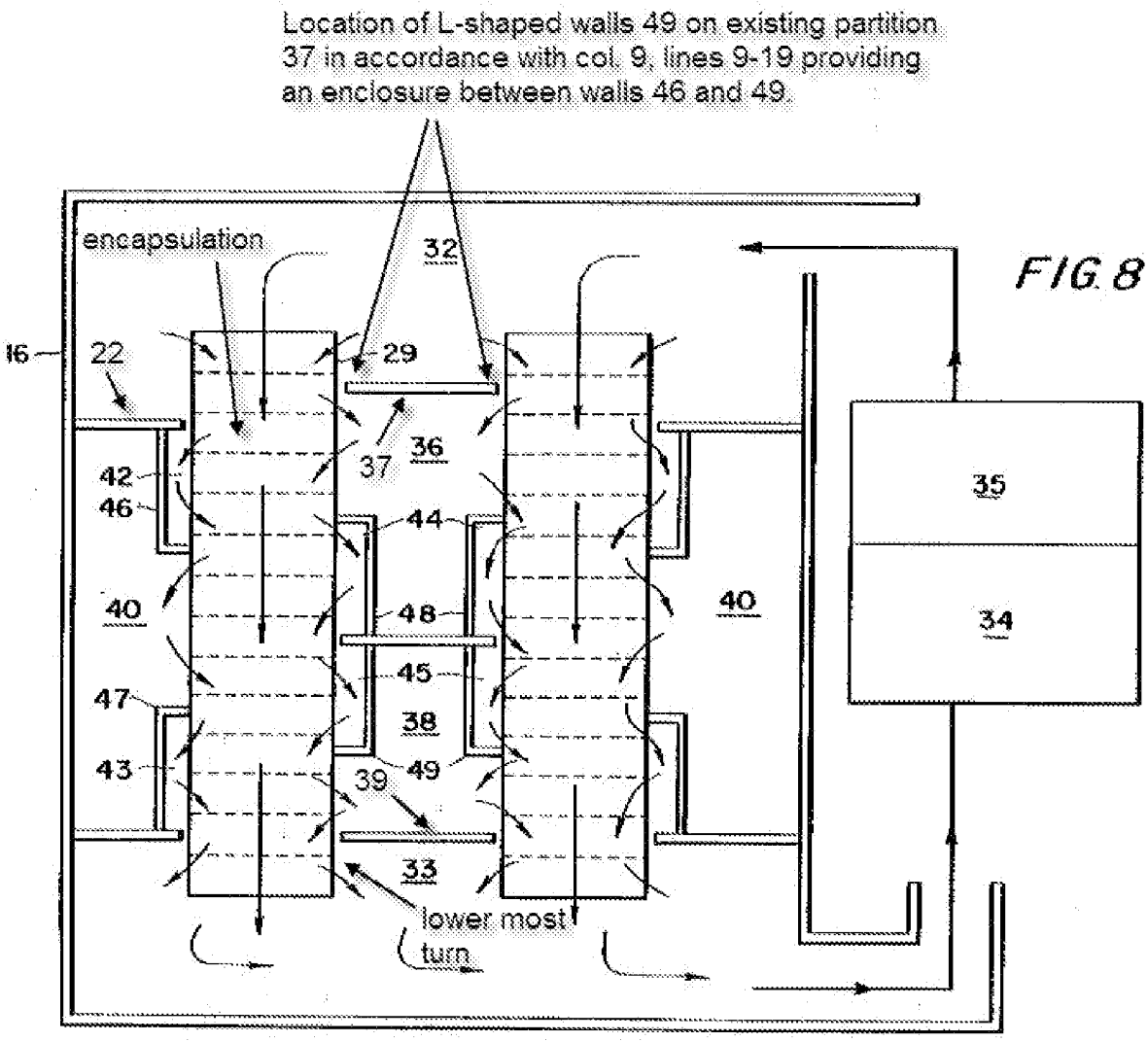

Location of L-shaped walls 49 on existing partition 37 in accordance with col. 9, lines 9-19 providing an enclosure between walls 46 and 49.
encapsulation
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FIG. 8
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lower most turn
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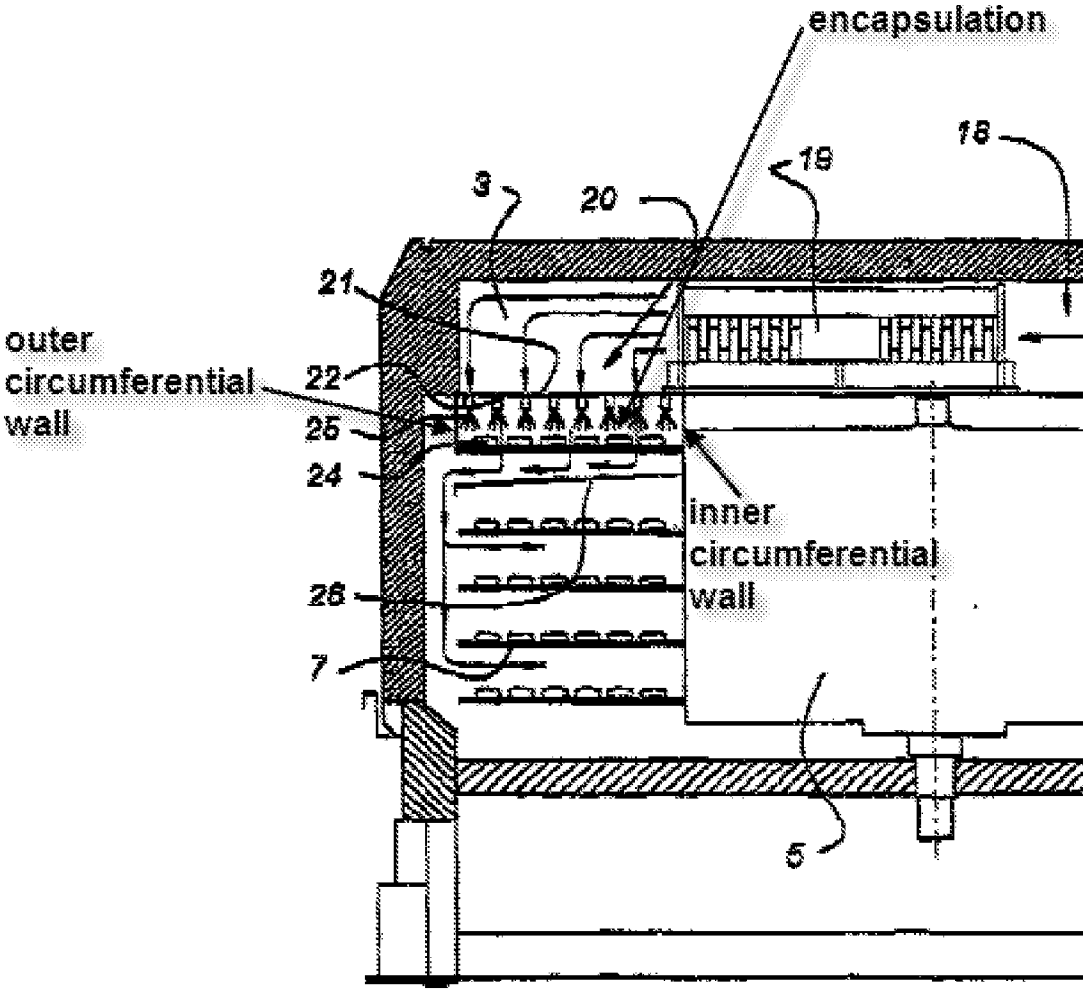
Figure B.



10. Claims 3, 20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crump et al. (US Patent No. 5,515,775) in view of Kuenen (US Pub. No. 2002/0139789 A1) as applied to claims 1 and 18 above, and further in view of Winterson et al. (US Patent No. 5,526,581 cited in prior notice of references cited mailed 3/24/2010).

11. In regards to claims 3, 20 and 23, Crump et al. in view of Kuenen discloses the claimed invention including from Crump et al. in which the source of supply of vapor comprises a fan (23, fig. 1, “fans 23 used as a means for circulating treatment gas” col. 6, lines 7-8 and col. 9,

lines 31-37 describing treatment gas having a specific relative humidity), except for the first gaseous medium is saturated water vapor. However, Winterson et al. teaches a first gaseous medium of saturated water vapor ("Another method is to use saturated steam as the reordering medium" col. 1, lines 39-43) in order to provide a medium for reordering material to be treated including tobacco and food (col. 1, lines 7-13) in a spiral conveyor stack (fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Crump et al. in view of Kuenen reference, to include the first gaseous medium is saturated water vapor, as suggested and taught by Winterson et al., for the purpose of providing a medium for reordering material to be treated including tobacco and food in a spiral conveyor stack. The Applicant is combining prior art elements according to known methods to yield predictable results. The Applicant is combining the prior art elements of a spiral conveyor stack for processing tobacco and foodstuffs using a first gaseous medium of water vapor as disclosed by Crump et al. with the prior art elements of a spiral conveyor stack for processing tobacco and foodstuffs using a first gaseous medium of saturated water vapor as taught by Winterson et al. according to known methods to yield the predictable results of a spiral conveyor stack for processing tobacco and foodstuffs using a first gaseous medium of saturated water vapor. One would be motivated to combine Crump et al. with Winterson et al. because Winterson et al. discloses successfully using a saturated water vapor when reordering and Crump et al. could be similarly improved by using a saturated water vapor when reordering, thus providing a gaseous medium known to successfully reorder material being treated.

12. Claims 4, 14, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crump et al. (US Patent No. 5,515,775) in view of Kuenen (US Pub. No. 2002/0139789 A1) as

applied to claims 1, 13, and 18 above, and further in view of Hwang (US Patent No. 5,078,120 cited in prior notice of references cited mailed 3/4/2009).

13. In regards to claims 4, 14, and 21, Crump et al. in view of Kuenen discloses the claimed invention, except for the second gaseous medium is overheated water vapor and in which the housing further comprises a drain for draining off condensed water vapor. However, Hwang teaches the second gaseous medium is overheated water vapor (col. 9, lines 27-47 describing treating food in a steam environment of up to 450 degrees F and col. 11, line 53-col. 12, line 5 describing treating food in a steam environment at a temperature of up to 400 degrees F) and in which the housing further comprises a drain (52, fig. 4, "drainage channel 52" col. 8, lines 24-29 describing a drain 52 for continuously draining drippings from food which would inherently include condensed water vapor) for draining off condensed water vapor in order to provide a gaseous cooking medium that achieves varying cooking characteristics (fig. 1, col. 9, lines 27-47 and col. 11, line 53-col. 12, line 5) and to drain off drippings (col. 8, lines 24-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Crump et al. in view of Kuenen reference, to include the second gaseous medium is overheated water vapor and in which the housing further comprises a drain for draining off condensed water vapor, as suggested and taught by Hwang, for the purpose of providing a gaseous cooking medium that achieves varying cooking characteristics and to drain off drippings. The Applicant is combining prior art elements according to known methods to yield predictable results. The Applicant is combining the prior art elements of a spiral conveyor stack apparatus for processing foodstuffs having a second gaseous medium of humid gaseous medium as disclosed by Crump et al. with the prior art elements of a spiral conveyor stack apparatus for

processing foodstuffs having a gaseous medium including overheated water vapor and a drain for draining off condensed water vapor as taught by Hwang according to known methods to yield the predictable results of a spiral conveyor stack apparatus for processing foodstuffs having a gaseous medium including overheated water vapor and a drain for draining off condensed water vapor. One would be motivated to combine Crump et al. with Hwang because Hwang teaches a spiral conveyor stack for processing foodstuffs enabling varying cooking characteristics and a drain for removing liquids during the processing of foodstuffs and the spiral conveyor stack for processing foodstuffs of Crump et al. could be similarly improved by using a gaseous medium of overheated water vapor and a drain, thus enabling the processing of a wider range of foodstuffs and removing condensed water vapor that may contain bacteria or odorous liquids from the processing of foodstuffs.

14. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crump et al. (US Patent No. 5,515,775) in view of Kuenen (US Pub. No. 2002/0139789 A1) as applied to claim 1 above, and further in view of Astrom (US Patent No. 3,412,476 cited in prior notice of references cited mailed 11/3/2009).

15. In regards to claims 16-17, Crump et al. in view of Kuenen discloses the claimed invention including from Crump et al. said inner circumferential wall extends vertically along a portion of the stack (Crump et al., fig. 8 and Figure A above), except for in which said outer circumferential wall extends vertically along the full height of the stack, whereby said outer circumferential wall optionally has openings or perforations along the portion of the stack not covered by the inner circumferential wall, and in which said outer and inner circumferential walls extend along the full height of the stack, whereby both walls have openings or perforations

along a portion of the stack. However, Astrom teaches in which an outer circumferential wall (12, fig. 3) extends vertically along the full height of a stack (1, fig. 3), whereby said outer circumferential wall (12, fig. 3) optionally has openings (16, fig. 3, col. 2, lines 27-44 describing the outer wall 12 having openings 16 so that air can pass through as represented by the single arrows where the location of the openings is determined from case to case to gain the best effect) along a portion of the stack not covered by the inner circumferential wall (where Crump et al. discloses the inner circumferential wall which extends for a portion of the stack), and in which an outer (12, fig. 3) and inner (3, fig. 3) circumferential walls extend along the full height of the stack (1, fig. 3), whereby both walls have openings (16, fig. 3, col. 2, lines 27-44 describing the outer wall 12 and inner wall 3 having openings 16 so that air can pass through as represented by the single arrows where the location of the openings is determined from case to case to gain the best effect) along a portion of the stack (1, fig. 3) in order to provide greater control over the flow of air between the inner and outer walls so that the best effect is gained (col. 2, lines 27-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Crump et al. in view of Kuenen reference, to include in which said outer circumferential wall extends vertically along the full height of the stack, whereby said outer circumferential wall optionally has openings along the portion of the stack not covered by the inner circumferential wall, and in which said outer and inner circumferential walls extend along the full height of the stack, whereby both walls have openings along a portion of the stack, as suggested and taught by Astrom, for the purpose of providing greater control over the flow of air between the inner and outer walls so that the best effect is gained. The Applicant is combining prior art elements according to known methods to yield predictable results. The Applicant is

combining the prior art elements of a spiral conveyor stack for processing foodstuffs having inner and outer circumferential walls as disclosed by Crump et al. with the prior art elements of a spiral conveyor stack for processing foodstuffs (Astrom, "foodstuffs" col. 1, line 13) having inner and outer circumferential walls extending the full height of the stack, whereby one or both walls (col. 2, lines 39-44) have openings along a portion of the stack as taught by Astrom according to known methods to yield the predictable results of a spiral conveyor stack for processing foodstuffs having inner and outer circumferential walls extending either a portion of or the full height of the stack, whereby one or both walls have openings along a portion of the stack. One would be motivated to combine Crump et al. with Astrom because Astrom teaches providing openings greater control over the flow of air between the inner and outer walls so that the best effect is gained and Crump et al. could be similarly improved by providing openings in its inner and outer walls, thus allowing for greater control over the flow of air between its walls to better achieve the best effect in processing foodstuffs.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Onodera (US Patent No. 4,118,181) discloses a helical conveyor with an end portion vertically surrounded by inner and outer circumferential walls that fit tightly to a first end closure, Onodera (US Patent No. 4,023,381) discloses an encapsulation with a first end closure, Persson (US Patent No. 6,619,069 B1) discloses an encapsulation with a first end closure, Fenty (US Patent No. 5,247,810) discloses an encapsulation with inner and outer circumferential walls, Palframan et al. (US Patent No. 5,214,934) discloses an encapsulation with inner and outer circumferential walls, Feld et al. (US Patent No. 3,133,798) discloses an encapsulation with inner

and outer circumferential walls, Dreksler (US Patent No. 3,315,492) discloses a first end closure that fits tightly against inner and outer circumferential walls, Buquoi et al. (US Patent No. 2,499,457) discloses an encapsulation having perforations in the outer circumferential wall, and Lang et al. (US Patent No. 5,170, 631) discloses an encapsulation having inner and outer circumferential walls with an opening along the outer circumferential wall.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COREY HALL whose telephone number is (571)270-7833. The examiner can normally be reached on Monday - Friday, 9AM to 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on (571)272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 3743
/Kenneth B Rinehart/
Supervisory Patent Examiner, Art Unit 3743